AMERICAN MUSEUM NOVITATES

Number 684 — Published by THE AMERICAN MUSEUM OF NATURAL HISTORY New York City — Jan. 5, 1934.

59.57,72 D (701)

KEY TO THE FEMALES OF NEARCTIC *DOLICHOPUS* LATREILLE (DIPTERA)

BY M. C. VAN DUZEE AND C. H. CURRAN

In a recent number of the American Museum Novitates we presented a key to the males of the species belonging to this genus. The females are less well known, and many of the species have been recognized from only the male sex. Females of a few species are so similar that no characters have yet been found for their separation, but almost all can be recognized once the two sexes have been associated.

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Femora yellow, the posterior ones sometimes with a blackish apical spot above, rarely with black apical band.....9.
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One pair of femora mostly yellow.....7.
3.—All the tibiae black.....18.
At least the anterior tibiae yellow.....4.
4.—Posterior orbits with the cilia wholly black.....5.
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5.—All the tibiae yellow, the posterior pair sometimes broadly black apically...70.
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18.—Femora black, at least one pair mainly black....19.
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19.—All femora and tibiae black, the knees may be more or less yellow....20.
One or more pairs of tibiae and sometimes also one or two pairs of femora yellow or yellowish....46.
20.—Middle tarsi with each segment enlarged and black at tip, first two antennal segments yellow with upper edge black....*appendiculatus* Van Duzee.
Middle tarsi normal, their segments not noticeably enlarged at tip, antennae wholly black, or with first segment yellow below....21.
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Middle and hind femora each with one preapical bristle....27.
22.—Orbital cilia wholly black....23.
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Wings uniformly cinereous hyaline....*albertensis* Curran.
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Wings with a conspicuous apical brown spot....*argentipes* Van Duzee.
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Third antennal segment a little longer than wide, arista inserted at middle of upper edge....26.
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Front tarsi one and a half times as long as their tibia....species.
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Cilia of calypters black....30.
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Rather small species, tip of fifth vein gently arched, nearly reaching hind margin of wing, which is scarcely notched....29.
29.—The silvery white pollen of the face extending widely along the frontal orbits. *squamosus* Van Duzee.
White pollen of the face not extending above the antennae...*viridis* Van Duzee.
30.—Lower orbital cilia black....31.
Lower orbital cilia pale....36.

31.—Femora broadly yellow at tip; basal segment of middle tarsi with a bristle above.....*manicula* Van Duzee.
Femora wholly black, or nearly so.....32.
32.—Basal segment of middle tarsi white with a black tip; middle tibiae white in the middle.....*stenhammari* Zetterstedt.
Middle tibiae and tarsi differently colored.....33.
33.—Basal segment of middle tarsi without a bristle above..*monticola* Van Duzee.
Basal segment of middle tarsi with a large bristle above.....34.
34.—Basal segment of middle tarsi mostly whitish.....*stenhammari* Zetterstedt.
Basal segment of middle tarsi black.....35.
35.—Antennae and front coxae wholly black.....*corax* Osten Sacken.
First antennal segment yellow below; front coxae usually conspicuously yellow on whole inner surface.....*acricola* Van Duzee.
36.—Hind margin of wing expanded a little just basally from tip of fifth vein, so as to form a slight sinus between this point and tip of sixth vein; all tarsi wholly black.....*detersus* Loew.
Hind margin of wing evenly rounded.....37.
37.—Second and third segments of front tarsi yellowish, the first, fourth, and fifth black.....*tetricus* Loew.
Front tarsi wholly black, or black from tip of first segment.....38.
38.—Basal segment of middle tarsi distinctly yellow at base, sometimes mostly yellow (western).....39.
Middle tarsi wholly black, or mostly so.....41.
39.—Front, occiput, and thorax thickly covered with coarse yellowish pollen, which nearly conceals the ground color.....*aethiops* Van Duzee.
Front and thorax metallic as usual.....40.
40.—Wings with third and fourth vein distinctly convergent toward their tips.
ovatus Loew.
Wings with third and fourth veins only slightly convergent..*acuminatus* Loew.
41.—Middle tarsi more or less yellow at base, usually considerably so; front tibia more or less yellow.....*ovatus* Loew.
Middle tarsi wholly black.....42.
42.—Bend in last section of fourth vein near its middle; front femora and tibiae wholly black, or nearly so.....43.
Bend in last section of fourth vein considerably before its middle; front femora and tibiae narrowly yellow at tips.....44.
43.—Bend in last section of fourth vein very near its middle.
multisetosus Van Duzee.
Bend in last section of fourth vein distinctly but not very much before its middle.....*calainus* Melander and Brues.
44.—Bend in last section of fourth vein about the length of the cross-vein beyond that vein.....*myosota* Osten Sacken.
Bend in last section of fourth vein distinctly more than the length of the cross-vein beyond that vein.....45.
45.—Front tarsi scarcely as long as the tibia.....*nigrimanus* Van Duzee.
Front tarsi fully as long as their tibiae.....*interjectus* Van Duzee.
46.—All femora more than half black.....47.
One or two pairs of femora yellow on more than basal half.....91.

47.—Lower orbital cilia black.....48.
Lower orbital cilia pale.....75.
48.—All tibiae black or blackish, except that the middle pair have a yellowish ring; their basitarsi mostly whitish.....*stenhammari* Zetterstedt.
At least the front tibiae yellow.....49.
49.—Middle tibiae mostly black.....50.
Anterior four tibiae yellow.....57.
50.—Front tibiae yellowish; middle tibiae black with a yellowish ring occupying their middle third, sometimes only their base and tip infuscated.
stenhammari Zetterstedt.
Front tibiae yellow; middle tibiae black, sometimes a little yellow at tip, or along upper edge of basal half.....51.
51.—Middle and hind femora with two preapical bristles.....52.
Middle and hind femora each with one preapical bristle.....54.
52.—Preapical bristles on middle and hind femora arranged longitudinally.
remus Van Duzee.
Preapical bristles on middle and hind femora situated one above the other..53.
53.—Basal segment of middle tarsi with a bristle above.....*bisetosus* Van Duzee.
Basal segment of middle tarsi without a bristle above.....*beatus* Van Duzee.
54.—Basal segment of middle tarsi with a large bristle above....*corax* Osten Sacken.
Basal segment of middle tarsi without a bristle above.....55.
55.—Middle tibiae with one bristle below; bend in last section of fourth vein not unusually small.....*acuminatus* Loew.
Middle tibiae with more than one bristle below; bend in last section of fourth vein very small.....56.
56.—Head with two yellow bristles below near the proboscis....*aequalis* Van Duzee.
Head without yellow bristles below.....*nodipennis* Van Duzee.
57.—Hind tibiae mostly or wholly black.....58.
Hind tibiae largely yellow.....69.
58.—Middle and hind femora each with two or three preapical bristles.....59.
Middle and hind femora each with one preapical bristle.....60.
59.—Middle and hind femora each with three preapical bristles.
partitus Melander and Brues.
Middle and hind femora each with two preapical bristles....*remus* Van Duzee.
60.—Front violet, or at least bluish.....61.
Front green, or bronze-color.....64.
61.—Front and middle tarsi black from the tip of first segment, sometimes wholly brown or black.....*adultus* Van Duzee.
Front and middle tarsi almost wholly yellow.....62.
62.—Hind tibiae with the yellow on upper edge reaching to the middle or nearly so.
gratus Loew.
Yellow on upper edge of hind tibiae not reaching over one-fourth their length.....63.
63.—Bend in last section of fourth vein just before its middle....*calcaratus* Aldrich.
Bend in last section of fourth vein near basal third (Georgia; Connecticut; Rhode Island).....*mercieri* Parent.

64.—Hind tibiae almost wholly black, only a very little yellowish at extreme base.....65.
Yellow of hind tibiae extending along upper edge for some distance; wings grayish.....67.
65.—Wings distinctly and rather uniformly brownish; front and middle tarsi black from the tip of first segment.....*johnsoni* Aldrich.
Wings wholly grayish, not tinged with brown; front and middle tarsi brownish, or brownish yellow.....66.
66.—Bend in last section of fourth vein just before its middle....*calcaratus* Aldrich.
Bend in last section of fourth vein near basal third.....*mercieri* Parent.
67.—Middle tarsi infuscated almost from their base; front tarsi black from tip of first segment.....*laticornis* Loew.
Front and middle tarsi almost wholly yellow.....68.
68.—Hind tibiae with the yellow on upper edge extending to their middle, or nearly so. *gratus* Loew.
Yellow of hind tibiae reaching only to basal fourth, or slightly more. *calcaratus* Aldrich.
69.—Cilia of the calypters yellow; wings with a faint but distinct cloud at tip, (Alaska).....*mannerheimi* Zetterstedt.
Not as above.....70.
70.—Front tarsi black from tip of first segment or wholly black.....71.
Front tarsi only a little darkened at tip.....74.
71.—Hind femora each with two preapical bristles; bristles on lower part of head all black.....72.
Hind femora each with one preapical bristle; head with two yellow or whitish bristles below near the proboscis.....73.
72.—Face with white pollen.....*nubifer* Van Duzee.
Pollen on upper part of face yellowish.....*vanduzeei* Curran.
73.—Last section of fourth vein nearly straight, only a little bent. *aequalis* Van Duzee.
Bend in last section of fourth vein small, but abrupt.....*alacer* Van Duzee.
74.—Front tibiae with two or three bristles on lower anterior edge; all bristles on lower part of head black.....*retinens* Van Duzee.
Front tibiae with only one small bristle below; head with two yellowish bristles below on each side of proboscis.....*alacer* Van Duzee.
75.—Middle and hind femora each with three preapical bristles; middle tibiae with one bristle below, which is unusually long...*partitus* Melander and Brues.
Middle and hind femora each with one preapical bristle.....76.
76.—Hind tibiae wholly black, or extreme base may be yellow.....77.
All tibiae yellow, at least at base on upper edge for a considerable distance; posterior tibiae black at tip.....78.
77.—Middle and hind tibiae yellow; front covered with white pollen, which almost conceals the ground color.....*agronomus* Melander and Brues.
Middle tibiae black with more or less yellow on upper edge, sometimes yellowish brown; front shining, metallic.....*acuminatus* Loew.
78.—Third antennal segment large for a female, somewhat triangular, the arista close to its tip.....*angusticornis* Van Duzee.
Third antennal segment of normal size, if large the arista is dorsal.....79.

79.—First antennal segment yellow below.....*conspectus* Van Duzee.
Antennae wholly black, or nearly so.....80.
80.—Middle tarsi wholly black; antennae mostly yellow; cilia of calypters yellow. Undescribed female from Alaska.
Basal segment of middle tarsi largely yellow.....81.
81.—Middle tarsi yellow with the tips of the segments broadly black, their anterior surface with silvery white pollen.....*remipes* Wahlberg.
Middle tarsi black from tip of first segment.....82.
82.—Wings with the third and fourth veins convergent toward their tips, where they are scarcely more than half as far apart as at bend in fourth. *convergens* Aldrich.
Third and fourth veins but little convergent beyond the bend in fourth vein.83.
83.—Black at tip of posterior tibiae extending along inner side nearly or quite to their base.....84.
Black at tip of hind tibiae not extending up inner side to any great extent, usually not at all.....86.
84.—Small hairs on anterior coxae wholly black, or nearly so....*albiciliatus* Loew.
Hairs on front coxae partly white, the white hairs conspicuous on outer half of anterior surface.....85.
85.—Front tarsi scarcely as long as their tibiae, fifth segment as long as third; orbital cilia silvery white.....*setifer* Loew.
Front tarsi as long as their tibiae; third segment as long as fourth and fifth together; lower orbital cilia white, but a little tinged with yellow. *burnesi* Van Duzee.
86.—Orbital cilia wholly black, except one or two near the proboscis.....87.
Many of the lower orbital cilia pale.....88.
87.—Last section of fourth vein only a little bent.....*aequalis* Van Duzee.
Last section of fourth vein with a small but rather abrupt bend. *alacer* Van Duzee.
88.—Hind femora with short, but distinct cilia on lower posterior edge. *albiciliatus* Loew.
Hind femora wholly without cilia below.....89.
89.—Moderately large species with the bend in last section of fourth vein just before its middle.....*barbicauda* Van Duzee.
Small species with the bend in last section of fourth vein distinctly before its middle.....90.
90.—Last section of fourth vein straight beyond the bend, third vein bent backward a little toward its tip, so as to approach fourth.....*xanthocnemus* Loew.
Last section of fourth vein a little arched beyond its bend, so as to be nearly parallel with third.....*litoralis* Van Duzee.
91.—Posterior femora black on basal half or more.....92.
Posterior femora mostly yellowish.....97.
92.—Middle femora largely or wholly yellow; anterior and posterior femora black on basal half or more.....93.
Anterior and middle femora yellow, posterior ones black.....101.
93.—Middle and hind femora each with two preapical bristles; hind tibiae black with base yellow, or yellow with tip and a stripe on posterior side black. *remus* Van Duzee.
Middle and hind femora each with one preapical bristle.....94.

94.—Middle femora black at base, shading into yellow toward the tip.....95.
Middle femora mostly yellow on the sides, black at base and on lower edge as far as the middle, or nearly so.....96.
95.—Face silvery white; small species; orbital cilia whitish....*xanthocnemus* Loew.
Rather large species; face gray; orbital cilia yellow.....*sedulus* Van Duzee.
96.—Orbital cilia wholly black.....*groenlandicus* Zetterstedt.
Lateral and inferior orbital cilia pale.....*sedulus* Van Duzee.
97.—Orbital cilia wholly black; antennae wholly black; middle and hind femora each with two preapical bristles.....*opportunus* Van Duzee.
Lower orbital cilia pale.....98.
98.—First and second antennal segments yellow below.....99.
Antennae wholly black; hind femora with one preapical bristle.....100.
99.—The usual preapical bristle terminating a row of three or four bristles.
amnicola Melander and Brues.
Hind femora with only one preapical bristle.....*maculitarsis* Van Duzee.
100.—Hind tibiae mostly yellow.....*bryanti* Van Duzee.
Hind tibiae almost wholly black.....*micropyga* Wahlberg.
101.—First antennal segment black above, yellow on lower half; lower orbital cilia yellowish.....*varipes* Coquillet.
First antennal segment wholly yellow; orbital cilia wholly black.
flavilacertus Van Duzee.
102.—Orbital cilia wholly black.....103.
Lower orbital cilia pale.....114.
103.—Front coxae black or green, the tips may be yellow.....104.
Front coxae yellow, the outer side may be more or less black or green.....106.
104.—First and second antennal segments yellow below.....*bruesi* Van Duzee.
Antennae wholly black.....105.
105.—Front violet.....*pachycnemus* Loew.
Front green.....*rupestris* Haliday.
106.—Basal segment of middle tarsi with a large bristle above.....107.
Basal segment of middle tarsi without a bristle above.....109.
107.—First antennal segment yellow.....*dorycerus* Loew.
Antennae wholly black.....108.
108.—Face brownish.....*brevipennis* Meigen.
Face white.....*ungulatus* Linnaeus.
109.—Basal segment of posterior tarsi with only one large bristle above; small shining species.....*barbipes* Van Duzee.
Basal segment of posterior tarsi with more than one large bristle above....110.
110.—Front thickly covered with brown pollen, nearly or quite concealing the ground color.....*rupestris* Haliday.
Front metallic, shining.....111.
111.—Antennae wholly black, the posterior tibiae always broadly black apically..112.
First and second antennal segments yellow below, or the posterior tibiae wholly yellow.....113.
112.—Hind tibiae black at tip for nearly or quite one-third their length.
brevipennis Meigen.
Hind tibiae black at tip for about one fifth their length....*lundbecki* Curran.

113.—Orbital cilia wholly black.....*bruesi* Van Duzee.
Lower orbital cilia yellow with from one to six black bristles on each side next to the proboscis.....*consanguineus* Wheeler.
114.—Cilia of the calypters pale.....115.
Cilia of the calypters black.....141.
115.—Antennae black, although the first and second segments may be yellow below.....116.
At least first antennal segment wholly yellow.....137.
116.—Front coxae blackened at base for half their length or more, sometimes the yellow extending to the base on inner side.....117.
Anterior coxae yellow, at least on anterior surface.....120.
117.—Hind femora and tibiae each with a black tip.....*fucatus* Van Duzee.
Hind femora wholly yellow.....118.
118.—Hind tibiae black at tip for one-fourth the length.....*pilatus* Van Duzee.
Hind tibiae wholly yellow.....119.
119.—Hind tarsi wholly black.....*longimanus* Loew.
Hind tarsi yellow at base.....*californicus* Van Duzee.
120.—Hind tibiae distinctly blackened at tip.....121.
Hind tibiae wholly yellow, or nearly so.....125.
121.—Middle tibiae with three bristles below, one near basal third and two near apical third.....*albicoxa* Aldrich.
Middle tibiae with only one bristle below, placed near apical third; cilia of the calypters more or less black.....122.
122.—Front coxae wholly yellow; last three segments of front tarsi of nearly equal length.....*indigena* Van Duzee.
Front coxae with a small blackish spot on outer surface at base; third segment of anterior tarsi longer than fourth, the fifth as long as the fourth....123.
123.—Fifth segment of front tarsi yellowish, paler than the joints preceding it.
socius Loew.
Fifth segment of front tarsi black.....124.
124.—Front and middle tarsi brownish black, rather small species.
socius gladius Van Duzee.
Front tarsi deep black.....*serratus* Van Duzee.
125.—Anterior coxae with a green or blackish streak on outer posterior edge.
crenatus Osten Sacken.
Anterior coxae wholly yellow, or with a small blackish spot on outer surface at base.....126.
126.—Hind tarsi wholly black, or nearly so.....127.
Basal segment of posterior tarsi largely yellow.....132.
127.—First antennal segment yellow below.....128.
Antennae wholly black, or nearly so.....130.
128.—Front coxae wholly yellow; basal segment of middle tarsi without a bristle above.....129.
Front coxae with a blackish spot at base on outer surface; basal segment of middle tarsi with a bristle above.....*nudus* Loew.
129.—Third antennal segment wholly black.....*albicoxa* Aldrich.
Third antennal segment largely yellow.....*longicornis* Stennhammar.

130.—Cross-vein long, nearly equaling the distance to the bend in fourth vein which is near basal third of the last section.....*palaestricus* Loew.[1]
Cross-vein shorter than the distance to bend in last section of fourth vein..131.
131.—Bend in last section of fourth vein just before its middle...*splendidus* Loew.[1]
Bend in last section of fourth vein at second fifth.....*splendidulus* Loew.[1]
132.—Basal segment of middle tarsi without a bristle above....*bolsteri* Van Duzee.
Basal segment of middle tarsi with a large bristle above near apical third..133.
133.—Basal segment of middle tarsi with two bristles above near basal third, the one on anterior edge may be the smallest.....134.
Basal segment of middle tarsi with only one large bristle above.....135.
134.—Antennae wholly black, especially when viewed from above....*batillifer* Loew.
First antennal segment distinctly yellow below.....*tonsus* Loew.
135.—Facial pollen with yellowish tinge.....136.
Facial pollen pure whitish.....*versutus* Van Duzee.
136.—Face slightly yellowish.....*dakotensis* Aldrich.
Face distinctly tinged with yellow.....*eudactylus* Loew.
137.—Middle tarsi wholly deep black.....Undescribed species from Alaska.
Basal segment of middle tarsi yellow with a black tip.....138.
138.—Basal segment of middle tarsi with a large bristle above....*variabilis* Loew.
Basal segment of middle tarsi without a bristle above.....139.
139.—Middle tibiae with one bristle below; all segments of front tarsi blackened at tip.....*celeripes* Van Duzee.
Front tarsi almost wholly yellow; middle tibiae with one or three bristles below.....140.
140.—Middle tibiae with one bristle below.....*tener* Loew.
Middle tibiae with three bristles below.....*luteipennis* Loew.
141.—Tips of hind tibiae black.....142.
Hind tibiae wholly yellow, sometimes a little blackened on inner side.....193.
142.—Tips of hind femora black, at least above.....143.
Hind femora wholly yellow.....150.
143.—Anterior coxae yellow, at most with a small blackish spot at base on outer side.....144.
Anterior coxae considerably blackened at base, sometimes mostly black, at least with a large black spot on outer surface.....145.
144.—Middle and hind femora each with one preapical bristle.....*comatus* Loew.
Middle and hind femora each with two or three preapical bristles.
trisetosus Van Duzee.
145.—Anterior femora brownish on upper edge, the brown color rarely faint.
affluens Van Duzee.
Front femora not darker on upper edge.....146.
146.—Last section of fourth vein nearly straight, with only a slight bend, which is close to its middle.....*sincerus subdirectus* Van Duzee.
Last section of fourth vein with a small, but distinct bend, which is situated before its middle.....147.
147.—First antennal segment yellow below.....*discolor* Van Duzee.
Antennae wholly black.....148.

[1]The main characters separating these species are unsatisfactory.

148.—Front coxae almost wholly black.....*sincerus* Melander and Brues.
Front coxae with a rather large black spot on outer surface.....149.
149.—Tips of hind femora black for the length of the preapical bristle, the black extending to lower edge, or nearly so.....*genualis* Van Duzee.
Tips of hind femora with a small blackish spot above.....*virga* Coquillett.
150.—Middle and hind tarsi wholly black.....151.
Middle tarsi broadly yellow basally.....154.
151.—Second antennal segment yellowish.....152.
Second and third antenal segments black.....*dasypodus* Coquillett.
152.—Third antennal segment yellowish on basal half.....153.
Third antennal segment black.....*plumipes* Scopoli.
153.—Arista with first segment very long; middle tibiae with a brown ring.
hastatus Loew.
Arista normal; middle tibiae yellow with a black tip....*uxorcula* Van Duzee.
154.—Antennae black, the first and second segments sometimes yellow below.....155.
First antennal segment wholly yellow.....184.
155.—Front blue or violet, sometimes almost black.....156.
Front green or bronze colored.....163.
156.—Last section of fourth vein with a stump-vein at bend.....157.
Last section of fourth vein only moderately bent, without a stump-vein....158.
157.—Middle tibiae with one bristle below, placed near the middle of lower anterior edge; antennae mostly black.....*ramifer* Loew.
Middle tibiae with three bristles below; first two antennal segments yellow with narrow black line above.....*reflectus* Aldrich.
158.—Wings with a brown spot along the costa near the tip...*ornatipennis* Van Duzee.
Wings without such a spot.....159.
159.—Middle and hind femora each with two preapical bristles.
renidescens Melander and Brues.
Middle and hind femora each with one preapical bristle.....160.
160.—Second antennal segment wholly black.....161.
Second antennal segment yellow with upper edge black.....162.
161.—Basal segment of middle tarsi with a large bristle above.
porphyrops Van Duzee.
Basal segment of middle tarsi without a bristle above.....*setosus* Loew.
162.—Hind tibiae blackened at tip for one-fourth their length...*reflectus* Aldrich.
Hind tibiae only a little blackened at tip.....*marginatus* Aldrich.
163.—Anterior coxae wholly yellow or with only a small blackish spot at the base on the outer surface.....169.
Anterior coxae considerably blackened at the base or with a dark stripe on the outer surface.....164.
164.—Front coxae with a green or black stripe on outer posterior edge, which is wide above, tapering to a point below.....165.
Front coxae considerably blackened at base.....166.
165.—Hind femora with a row of bristles of increasing length ending in the preapical bristle.....*aldrichi* Wheeler.
Hind femora with only one preapical bristle.....*penicillatus* Van Duzee.

166.—Front coxae nearly half black.....*pilatus* Van Duzee.
Front coxae mostly black; hind tibiae blackened on apical fifth; basal segment of middle tarsi with a large bristle above.....167.
167.—Posterior tibiae black on most of apical half.....*nigricoxa* Van Duzee.
Posterior tibiae black on about apical fourth, middle tibiae with three bristles below.....168.
168.—Front tarsi as long as their tibia, black from tip of first segment.
obcordatus Aldrich.
Front tarsi longer than their tibia, infuscated almost from their base.
pollex Osten Sacken.
169.—Antennae wholly black, or nearly so.....170.
First antennal segment distinctly yellow below.....172.
170.—Length 3 mm.; dorsum of thorax bronze-brown, with brown pollen.
brunneus Aldrich.
Length 3 to 4.5 mm.; dorsum of thorax metallic green.....171.
171.—Bend in last section of fourth vein near apical third; length 3 to 3.5 mm.
pantomimus Melander and Brues.
Bend in last section of fourth vein at its middle; length 4.5 mm.
melanocerus Loew.
172.—Basal segment of middle tarsi with a conspicuous bristle above.....173.
Basal segment of middle tarsi without a bristle above.....177.
173.—Middle tibiae with only one bristle below.....*porphyrops* Van Duzee.
Middle tibiae with three bristles below, two near apical third and one near basal third.....174.
174.—Black at tip of hind tibiae shading into the yellow, inner surface mostly yellow.
speciosus Van Duzee.
Black at tip of hind tibiae sharply defined.....175.
175.—Bristle on basal segment of middle tarsi rather small; third vein bent backward so as to approach fourth at tip.....*canadensis* Van Duzee.
Bristle on basal segment of middle tarsi large; tips of third and fourth veins not convergent.....176.
176.—Bend in last section of fourth vein distinctly before its middle.
decorus Van Duzee.
Bend in last section of fourth vein very near its middle..*plumitarsis* Fallén.
177.—Middle tibiae with more than one bristle below.....178.
Middle tibiae with only one bristle below.....179.
178.—Middle tibiae with three bristles below, two near apical third, one near basal third; front tarsi black from tip of first segment..*canadensis* Van Duzee.
Middle tibiae with two bristles below, one near apical third and one near middle.
sicarius Van Duzee.
179.—Front tarsi yellow with fifth segment black, or wholly yellow.
sicarius Van Duzee.
Front tarsi blackish from tip of first segment, sometimes the fifth segment yellowish.....180.
180.—Front tibiae with two large bristles below; rather large species with large bristles on tibiae.....181.
Front tibiae with only small bristles below; rather small species.....182.

181.—Front coxae wholly yellow.....*setosus* Loew.
Front coxae with a blackish spot on outer surface at base..*serratus* Van Duzee.
182.—Fifth segment of front tarsi yellowish, paler than those preceding it.
socius Loew.
Front tarsi black from tip of first segment.....183.
183.—Front coxae wholly yellow.....*indigena* Van Duzee.
Anterior coxae with a blackish spot on outer surface at base..*incisuralis* Loew.
184.—Third antennal segment wholly black.....185.
Third antennal segment yellow, at least at base.....187.
185.—Second antennal segment more or less yellow, usually largely yellow.
flagellitenens Wheeler.
Second antennal segment wholly black, or nearly so.....186.
186.—Bend in last section of fourth vein at basal third; tips of third and fourth veins rather widely separated.....*compactus* Van Duzee.
Bend in last section of fourth vein a little beyond basal third; tips of third and fourth veins rather close together.....*blandus* Van Duzee.
187.—Last section of fourth vein with a stump-vein at its bend.....188.
Last section of fourth vein without a stump-vein at its bend.....191.
188.—Front shining metallic.....*reflectus* Aldrich.
Front opaque with pollen.....*bifractus* Loew.
189.—Tips of middle tibiae blackish.....*hastatus* Loew.
Tips of middle tibiae not at all infuscated.....190.
190.—Front violet.....191.
Front green.....192.
191.—Basal segment of middle tarsi with a large bristle above.....*vigilans* Loew.
Basal segment of middle tarsi without a bristle above.....*pugil* Loew.
192.—Bend in last section of fourth vein at basal third.....*plumipes* Scopoli.
Bend in last section of fourth vein a little before its middle.
carolinensis Van Duzee.
193.—Hind tarsi wholly black, or only a little yellowish at base.....194.
Hind tarsi considerably yellow at base, usually the first segment yellow with a black tip.....227.
194.—First antennal segment black, at least on upper edge.....195.
First antennal segment wholly yellow.....209
195.—Middle tarsi wholly black.....*dasypodus* Coquillett.
Basal segment of middle tarsi yellow with a black tip.....196.
196.—Front violet or blue.....197.
Front green or bronze color.....202.
197.—Coxae yellow, middle pair more or less blackened on outer surface; basal segment of middle tarsi with a large bristle above.....198.
Middle and hind coxae black with yellow tips, or with outer side largely black.....199.
198.—Middle tibiae with two long slender bristles below.....*flavicoxa* Van Duzee.
Middle tibiae with three bristles below.....*porphyrops* Van Duzee.
199.—Middle and sometimes hind femora with two preapical bristles; antennae wholly black.....*bakeri* Cole.
Middle and hind femora each with one preapical bristle; first antennal segment yellow below.....200.

200.—First and second antennal segments yellow with a black line above. *marginatus* Aldrich.
Antennae black with only first segment yellow below.....201.
201.—Front tarsi wholly yellow, or with fifth segment more or less black and shorter than fourth; third and fourth veins convergent at tips; middle tibiae with one bristle below.....*nigricornis* Meigen.
Front tarsi infuscated from tip of first segment, the fourth and fifth segments of nearly equal length; third and fourth veins parallel; middle tibiae with three bristles below.....*porphyrops* Van Duzee.
202.—Basal segment of middle tarsi without a bristle above.....203.
Basal segment of middle tarsi with a large bristle above.....206.
203.—Hind femora with a row of bristles of increasing length, ending in the usual preapical bristle; front femora blackened a little at base. *californicus* Van Duzee.
Hind femora with one preapical bristle.....204.
204.—Front tarsi wholly black.....*boreus* Van Duzee.
Front tarsi yellow, at least first segment mostly yellow.....205.
205.—Front tarsi yellow, usually with fifth segment black, the fifth segment shorter than fourth; wings with third and fourth veins convergent. *nigricornis* Meigen.
Front tarsi black from tip of first segment, the fifth segment yellowish. *socius* Loew.
206.—Basal segment of middle tarsi wholly black.....207.
Basal segment of middle tarsi yellow with a black tip.....208.
207.—Second and third antennal segments wholly black....*dasypodus* Coquillett.
First, second, and part of third antennal segments yellow..*uxorcula* Van Duzee.
208.—Last section of fourth vein bent near its middle.....*walkeri* Van Duzee.
Last section of fourth vein bent considerably before its middle. *procerus* Van Duzee.
209.—Front violet or blue.....210.
Front green or bronze color.....214.
210.—Second antennal segment wholly black.....*sufflavus* Van Duzee.
Second antennal segment partly or wholly yellow.....211.
211.—Second segment of middle tarsi longer than first.....*pugil* Loew.
Second joint of middle tarsi about half as long as first.....212.
212.—Basal segment of middle tarsi without a bristle above..*marginatus* Aldrich.
Basal segment of middle tarsi with a large bristle above, a little beyond its middle; small species.....213.
213.—Antennae almost wholly yellow.....*wheeleri* Melander and Brues.
Antennae with third segment and outer surface of second wholly black. *amphericus* Melander and Brues.
214.—Third antennal segment wholly black.....215.
Third antennal segment partly or wholly yellow.....224.
215.—Second antennal segment wholly black.....216.
Second antennal segment yellow, at least on inner side.....221.
216.—Hairs on front coxae mostly yellow and rather long.....217.
Black hairs on front coxae conspicuous and covering most of anterior surface.....218.

217.—Hairs on inner edge of front coxae and those near tip black, also a cluster of longer black hairs at base on inner edge.....*lobatus* Loew.
Hairs on front coxae almost wholly yellow.....*omnivagus* Van Duzee.
218.—First segment of front tarsi not or but slightly longer than the two following segments taken together.....*completus* Van Duzee.
First segment of front tarsi nearly equal to the three following segments taken together.....219.
219.—Tip of third vein considerably bent backward; first segment of front tarsi distinctly longer than fourth.....220.
Tip of third vein only bent back a little; fifth segment of front tarsi scarcely longer than fourth.....*procerus* Van Duzee.
220.—Basal segment of middle tarsi with a large bristle above at apical third and another rather large bristle near it on anterior surface..*aeratus* Van Duzee.
Large bristle on basal segment of middle tarsi placed before apical third and without another bristle near it.....*sufflavus* Van Duzee.
221.—Basal segment of middle tarsi with a bristle above.....222.
Basal segment of middle tarsi without a bristle above.....*plumosus* Aldrich.
222.—Bristle on basal segment of middle tarsi large.....223.
Bristle on basal segment of middle tarsi small.....*dorsalis* Van Duzee.
223.—Front coxae with their hairs mostly yellow; hind margin of wing with a very small, but distinct lobe or expansion at tip of sixth vein....*lobatus* Loew.
Front coxae with black hairs; wings with scarcely a trace of an expansion at tip of sixth vein.....*coloradensis* Aldrich.
224.—Front and dorsum of thorax opaque with pollen; last section of fourth vein with a stump-vein at its bend.....*bifractus* Loew.
Front and dorsum of thorax shining metallic; last section of fourth vein without a stump-vein at its bend.....225.
225.—Middle tarsi wholly black.....*plumipes* Scopoli.
Middle tarsi broadly yellow basally.....226.
226.—Face wide, yellowish or grayish white.....*fulvipes* Loew.
Face silvery white, not very wide.....*gracilis* Aldrich.
227.—First antennal segment black, at least on upper edge.....228.
First antennal segment wholly yellow.....248.
228.—Anterior coxae wholly yellow or very narrowly blackened at base or with a dark basal spot on outer side.....238.
Anterior coxae either broadly blackened basally or black or green on the outer side.....229.
229.—Front coxae considerably blackened at base.....*californicus* Van Duzee.
Front coxae yellow with a blackish or green stripe on outer posterior edge, which is wide above, usually tapering to a point below.....230.
230.—Hind femora with only one preapical bristle.....*penicillatus* Van Duzee.
The main preapical bristle ending a row of bristles of increasing length....231.
231.—One or more of the lower orbital cilia black, above these are from four to ten orange colored cilia, the rest all black.....*consanguineus* Wheeler.
Lateral and inferior orbital cilia all yellowish.....232.
232.—First antennal segment long, with long bushy hair; first and second antennal segments broadly yellow below on inner side; arista thickened.....233.
First antennal segment and arista normal.....234.

233.—Lower orbital cilia long, golden yellow, flattened.....*andersoni* Curran.
Lower orbital cilia normal, yellowish.....*crenatus* Osten Sacken.
234.—Second antennal segment, as well as first, conspicuously yellow below....235.
Second antennal segment wholly black, or only a little yellow on inner side.237.
235.—Cross-vein distinctly oblique.....*californicus* Van Duzee.
Cross-vein nearly or quite perpendicular with fourth vein.....236.
236.—Third vein abruptly bent backward at tip.....*afflictus* Osten Sacken.
Third vein gradually bent backward at tip.....*idahoensis* Aldrich.
237.—Bend in last section of fourth vein not farther from the cross-vein than the length of that vein.....*aurifex* Van Duzee.
Bend in last section of fourth vein distinctly farther from the cross-vein than the length of that vein.....*aldrichii* Wheeler.
238.—Antennae wholly black; middle femora with two preapical bristles..*bakeri* Cole.
First antennal segment yellow below.....239.
239.—Basal segment of middle tarsi without a bristle above.....240.
Basal segment of middle tarsi with a conspicuous bristle above.....242.
240.—Front tarsi yellow with fifth joint black.....*nigricornis* Meigen.
Front tarsi black from the tip of first segment.....241.
241.—Wings with a clouded spot at tip in front of third vein..*harbecki* Van Duzee.
Wings grayish hyaline, without a spot in front.....*slossonae* Van Duzee.
242.—Inferior orbital cilia with a prominent black bristle near the proboscis....243.
No black bristle on lower part of head near the proboscis.....244.
243.—Front coxae black at base on outer surface.....*scoparius* Loew.
Front coxae wholly yellow.....*quadrilamellatus* Loew.
244.—First two segments of front tarsi yellow, the last three black; hind tibiae and first segment of their tarsi with many large bristles..*quadrilamellatus* Loew.
Front tarsi infuscated from tip of first segment.....245.
245.—Basal segment of front tarsi yellowish brown, the black at tip not sharply defined, but shading into the yellowish color.....*talus* Van Duzee.
Basal segment of front tarsi yellow, the black at tip sharply defined, but base of second segment usually a little yellowish.....246.
246.—Bend in last section of fourth vein very close to its middle..*procerus* Van Duzee.
Bend in last section of fourth vein before its middle.....247.
247.—Wings brownish in front of third vein.....*compactus* Van Duzee.
Wings scarcely darker in front.....*coquilletti* Aldrich.
248.—Third antennal segment wholly black.....249.
Third antennal segment yellow at base.....256.
249.—Second antennal segment wholly black.....250.
Second antennal segment mostly yellow.....253.
250.—Basal segment of middle tarsi without a bristle.....251.
Basal segment of middle tarsi with a large bristle above.....252.
251.—Middle tarsi black from the tip of first segment.....*occidentalis* Aldrich.
Front and middle tarsi wholly yellow (*lobipennis* Van Duzee).
virginiensis Van Duzee.
252.—Third vein distinctly bent backward at tip.....*talus* Van Duzee.
Third vein scarcely bent backward at tip, nearly straight..*coquilletti* Aldrich.

253.—Anterior femora with a few long delicate black hairs above near base. *plumosus* Aldrich.

Basal hairs on upper edge of front femora scarcely longer than those on remainder of upper edge....254.

254.—Hind margin of wing rather deeply notched at tip of fifth vein. *duplicatus* Aldrich.

Hind margin of wing not, or but little notched at tip of fifth vein....255.

255.—Bend in last section of fourth vein a little beyond its basal third. *tenuipes* Aldrich.

Bend in last section of fourth vein a little before its middle. *canaliculatus* Thomson.

256.—Hind coxae blackened on outer surface of basal half or more (at least with a large blackish spot covering most of basal half)....257.

Hind coxae yellow, but the outer surface sometimes has blackish streaks or spots....265.

257.—Basal segment of middle tarsi with a large bristle above....258.

Basal segment of middle tarsi without such a bristle....259.

258.—Third vein bent backward a little, so as to approach fourth at tip in an even curve....*grandis* Aldrich.

Third vein less bent at tip, nearly or quite parallel with fourth near tip. *superbus* Van Duzee.

259.—Hind margin of wing deeply notched at tip of fifth vein....260.

Hind margin of wing not or but little indented at tip of fifth vein....261.

260.—First antennal segment rather long for a female....*latipes* Loew.

First antennal segment short, about as usual for a female. *carolinensis* Van Duzee.

261.—Anterior tarsi yellow with fifth segment black....262.

Anterior tarsi more or less infuscated from tip of first segment....263.

262.—Tip of third antennal segment black....*canaliculatus* Thomson.

Antennae wholly yellow....*ruficornis* Loew.

263.—Middle tibiae a little blackened at tip....*hastatus* Loew.

Middle tibiae wholly yellow, not infuscated at tip....264.

264.—Front of thorax with thick yellowish pollen....*tenuipes* Aldrich.

Front of thorax shining green with a little grayish pollen....*fulvipes* Loew.

265.—Last section of fourth vein bent in an obtuse angle, without a stump-vein..266.

Last section of fourth vein bent, at a right angle, or nearly so, with a stump-vein at the bend....279.

266.—Basal segment of middle tarsi with a large bristle above....267.

Basal segment of middle tarsi without a bristle above....273.

267.—Humeri more or less yellow, at least yellow at lower edge....*scapularis* Loew.

Humeri wholly metallic in color....268.

268.—Hind tarsi more or less infuscated from tip of first segment, at least the tips of the segments darkened....269.

All tarsi yellow, anterior pair with last segment a little darkened. *ruficornis* Loew.

269.—Front tarsi black or infuscated from tip of first segment..*domesticus* Van Duzee.

Front tarsi with first segment wholly yellow, sometimes darkened from base of second segment....270.

270.—Front tarsi black or blackish from middle of third segment, the black being rather sharply defined.....271.
Third segment of front tarsi wholly yellow.....272.
271.—Wings narrowed toward their root, anal angle prominent, hind margin with a slight sinus between tips of sixth vein and the anal angle.
longipennis Loew.
Hind margin of wing evenly rounded; wings not narrowed at root..*sarotes* Loew.
272.—Dorsum of thorax with yellowish gray pollen.....*sexarticulatus* Loew.
Dorsum of thorax with only a little grayish white pollen....*terminalis* Loew.
273.—Hind tarsi black from the tip of first segment.....274.
Hind tarsi yellow, at most a little infuscated from tip of first segment but scarcely black even at tip.....276.
274.—Posterior femora with a row of bristles, which end in the usual preapical bristle.
latipes Loew.
Posterior femora with only one preapical bristle.....275.
275.—Face yellowish above.....*aurifacies* Aldrich.
Face wholly silvery white.....*ruficornis* Loew.
276.—Humeri yellowish.....*funditor* Loew and *distinctus* Van Duzee.
Humeri metallic.....277.
277.—About three of the upper orbital cilia black.....*pulchrimanus* Bigot.
About six of the orbital cilia on each side black.....278.
278.—Bend in last section of fourth vein slight and near basal third.
sexarticulatus Loew.
Bend in last section of fourth vein sharp and near its middle..*terminalis* Loew.
279.—Wings a little narrowed toward base, anal angle prominent; hind margin of wing with a slight sinus between the anal angle and the tip of sixth vein.
longipennis Loew.
Wings not narrowed at base, hind margin evenly rounded.....280.
280.—*Vittatus* Loew, *cuprinus* Wiedemann, *absconus* Van Duzee and perhaps the female of *sarotes* Loew come here, but we find no characters for their separation.